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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/529,603

11/28/2006

Geoffrey Haswell

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EXAMINER

WONG, ALBERT KANG

ART UNIT

PAPER NUMBER

2612

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/529,603	Applicant(s) HASWELL ET AL.	
	Examiner ALBERT K. WONG	Art Unit 2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. This Office action is in response to the application filed November 28, 2006. Claims 1-11 are pending.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiernicki (4,300,119).

Regarding claim 1, the claimed sensor means is shown as item 22; the claimed transmission means is shown as item 16; the claimed piezoelectric power generator is shown as item 11; and the claimed control means is shown as item 16 or item 44. Wiernicki does not show a housing, however, it is conventional, and thus obvious, to include a housing to protect the electronics. Wiernicki teaches in col. 5, lines 10-25 that the signal from the power generator is proportional to the rotational speed of the tire and is used to control the rate of transmission from the sensor.

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Regarding claim 2, Wienicki does not specifically teach that the control means monitors the number and/or frequency of pulses to determine the appropriate rate of data transmission since the transmission rate is directly controlled by the pulses generated by the power generator. However, in more sophisticated systems, the use of a processor to control the monitoring process is conventional. It would have been obvious to use a processor for additional control. To replicate the signals to determine speed, it would have been obvious for the processor to determine the speed by monitoring the pulses generated by the generator.

Regarding claim 3, it would have been obvious to initiate monitoring only after there is sufficient power. This would be done after a certain number of pulses are detected.

Regarding claim 4, since the sensor is mounted on the tire, it would have been obvious that the housing for the sensor be similarly mounted.

Regarding claim 5, since the internal surface of the tire is arcuate, it would have been obvious for the housing to assume a similar shape to insure reliable bonding.

Regarding claim 6, it would have been obvious for the housing to assume a similar shape to insure reliable bonding.

Regarding claim 7, it would have been obvious to releasably mount the housing to the tire so that the sensor may be replaced if it is defective. Otherwise, the entire tire would have to be destroyed.

Regarding claim 8, clips are conventional mounting means. It would have been obvious to use any conventional releasable fastener since their function is well known to one of ordinary skill in the art.

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Regarding claim 9, since the sensor includes a temperature sensor, there must be some means to allow movement of air within the housing to insure an accurate reading. Also, since the housing is subject to flexing by the tire, a sealed housing would burst.

Regarding claim 10, see figure 1.

Regarding claim 11, the claimed actuator provides the interface between the piezoelectric element and the other circuitry. The prior art teaches the use of the same power generating element. It is known that piezo elements expand and contract. Thus, an interface must be able to move to accommodate the changes in the piezo element. Since the prior art uses the same element, it would have been obvious to include a moveable interface to resolve the same problem.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALBERT K. WONG whose telephone number is (571)272-3057. The examiner can normally be reached on M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian A. Zimmerman can be reached on 571-272-3059. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Albert K Wong/
Primary Examiner, Art Unit 2612

August 18, 2009